

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
19 February 2004 (19.02.2004)

PCT

(10) International Publication Number  
WO 2004/014943 A3

(51) International Patent Classification<sup>7</sup>: C07K 5/10,  
14/70, A61K 38/04

(21) International Application Number:  
PCT/PL2003/000077

(22) International Filing Date: 7 August 2003 (07.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
P.355470 13 August 2002 (13.08.2002) PL

(71) Applicants and

(72) Inventors: LIPKOWSKI, Andrzej, W. [—/—]; ul. Symfonii 4, m 47, PL-02-786 Warszawa (PL). CARR, Daniel [—/—]; 935 Hammond Street, Chestnut Hill, MA 02467 (US). BONNEY, Iwona [US/US]; 28 Vinar Avenue, Somerville, MA 02143 (US). KOSSON, Dariusz [PL/PL]; ul. Kopcinskiego 16 m 86, PL-02-777 Warszawa (PL). MISIECKA-KESIK, Aleksandra [PL/PL]; ul. Krasinskiego 22, PL-05-820 piastów (PL).

(74) Agent: WITEK, Rafal; Witek, Twardowska, Sniezko, Rzecznicy Patentowi-sp.p., ul. Tamka 34/25, PL-00-355 Warszawa (PL).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:  
29 April 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BIPHALIN DERIVATES AND THEIR ANALGESIC APPLICATIONS

(57) Abstract: Application of peptides with analgesic properties as the active ingredient in devices for the direct application of medication to the site of their expected analgesic activity, particularly in the central nervous system.



WO 2004/014943 A3